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# Botanical and Commercial Range of Jack Pine in the Lake States

Accurate maps showing the distribution of important tree species are valuable to foresters, botanists, wildlife specialists, land managers, and others. Although the general botanical ranges for our principal tree species have been well known for some time, new information continues to develop. Commercial ranges, however, have not previously been mapped very precisely, and artificial extensions of ranges generally have not been mapped at all. For these reasons, range maps of the principal Lake States forest tree species have been prepared, and that for jack pine (*Pinus banksiana* Lamb.) is presented here (fig. 1).

Accuracy depends in part on the scale of the map being used. On this map, it is not practical to separate out isolated stands except when they are some distance from the main range. Accordingly, the main range boundary is so drawn as to include several outliers near the edge of the principal distribution. To complete the southern portion of the range close to the Lake States, verified distribution in Indiana and Illinois has been shown, although jack pine now appears to be extinct in Illinois.

In the silvical characteristics reports for Lake States tree species, commercial ranges were mapped, but they were based on the following broad definition: "Commercial range is defined as the distribution of the species as a major or important component in the type, now or in the past, regardless of whether it is now being utilized." In the present Note, commercial ranges are indicated for each county that presently has at least 1,000 cords or 1,000,000 board feet of jack pine.

The map of botanical range is based on the latest available published reports[1] as modified by the observations of qualified foresters and botanists[2] and on a supplemental map which shows the source location of specimens in established herbaria (fig. 2 on page 4). The map of commercial range is based primarily on published reports of the Forest Survey, supplemented for completeness by unpublished data from the same source. Commercial occurrence is indicated for each county that has at least 1,000 cords of jack pine on commercial forest land. Counties with 10,000 to 99,000 cords and those with at least 100,000 cords of jack pine are specially designated.

Within its natural range in the Lake States, jack pine grows most commonly on level to gently rolling, acid, sandy soils, although it also occurs on rocky areas and occasionally on heavy soils and peat. It grows both in extensive pure stands and in mixture with a number of tree species, the most common of which are paper birch, the aspens

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[1] *Fassett, Norman C. Preliminary reports on the flora of Wisconsin V. Coniferales. Wis. Acad. Sci., Arts and Letters Trans. 25: 177-182, illus. 1930.*

*Rudolf, Paul O. Silvical characteristics of jack pine. U. S. Forest Serv., Lake States Forest Expt. Sta., Sta. Paper 61, 31 pp., illus. 1958.*

*Schoenike, Roland E. The distribution of jack pine in Minnesota. Univ. Minn., School of Forestry, Spec. Publ. 1, 57 pp., illus. 1962.*

*......... The distribution of jack pine in Wisconsin. Unpublished report on file at Univ. Minn., School of Forestry.*

[2] *Information in this Note has been reviewed by Dr. John Andresen of Michigan State University, Dr. E. L. Little, Jr. of the U. S. Forest Service, Norman F. Smith of the Michigan Conservation Department, Dr. John Thomson of the University of Wisconsin, Dr. Edward Voss of the University of Michigan, S. W. Welsh of the Wisconsin Conservation Department, and staff members at all field units of the Lake States Forest Experiment Station.*

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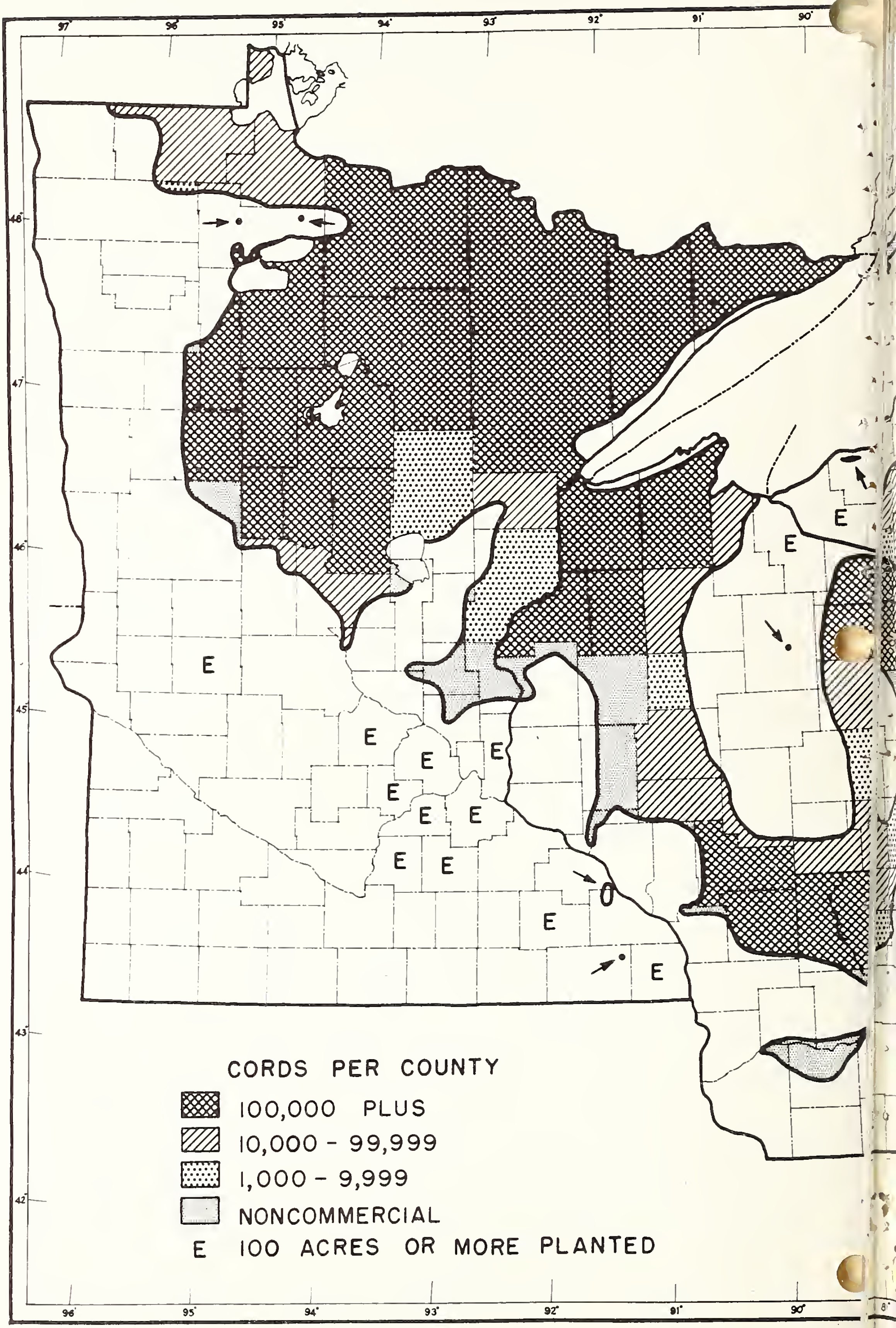
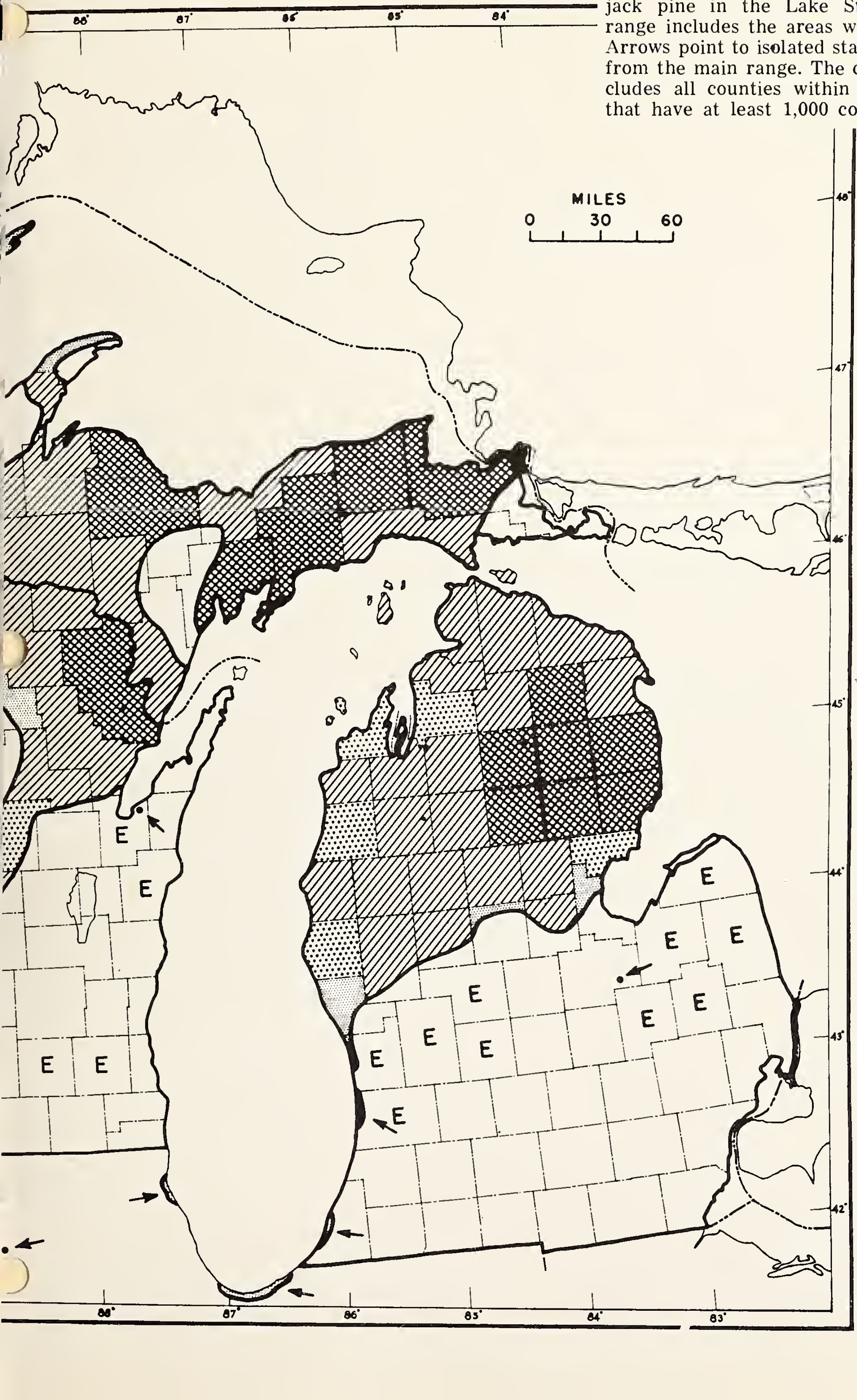

CORDS PER COUNTY
100,000 PLUS
10,000 - 99,999
1,000 - 9,999
NONCOMMERCIAL
E 100 ACRES OR MORE PLANTED
97°
96°
95°
94°
93°
92°
91°
90°
48°
47°
46°
45°
44°
43°
42°

Figure 1. — Botanical and commercial range of jack pine in the Lake States. The botanical range includes the areas within the heavy line. Arrows point to isolated stands at some distance from the main range. The commercial range includes all counties within the botanical range that have at least 1,000 cords of jack pine.



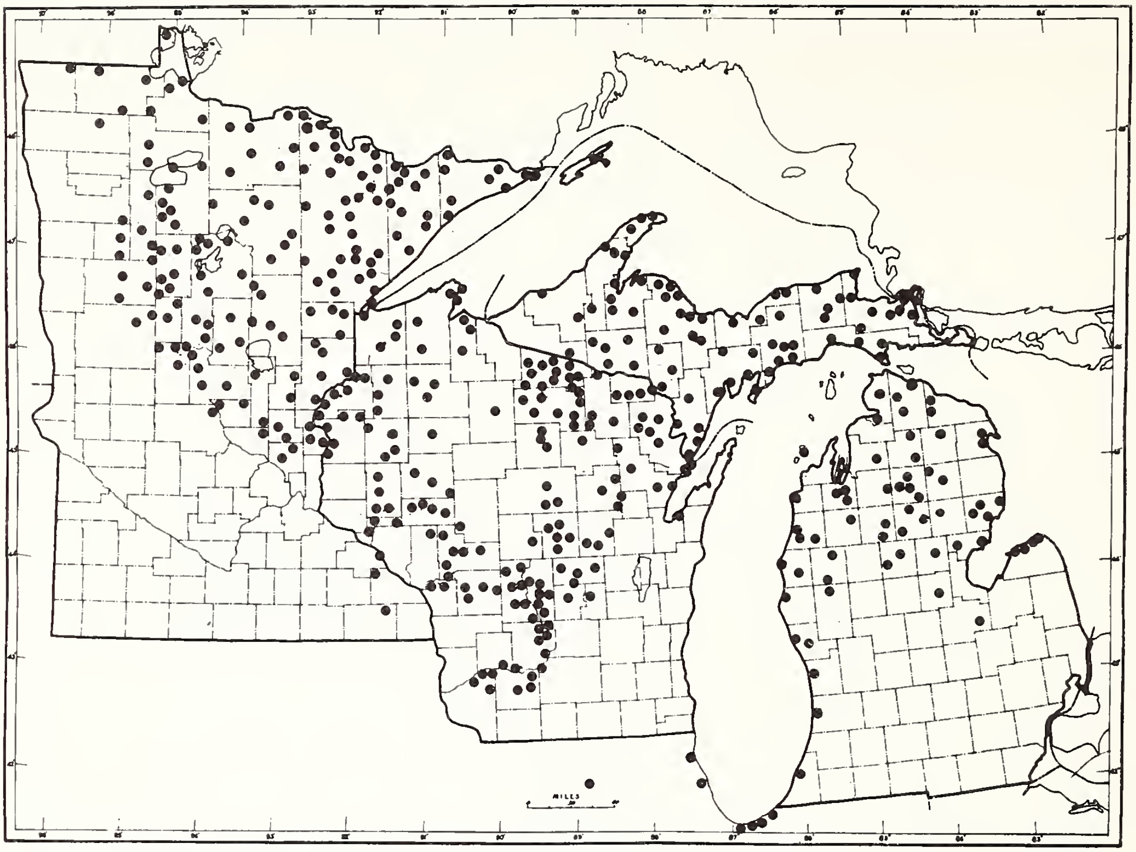


FIGURE 2. — Localities from which native *Pinus banksiana* is represented in established herbaria.*

*Includes material from the following herbaria: Albion College, Brooklyn Botanic Garden, Buffalo Museum, Butler University, California Academy of Sciences, Canada Department of Agriculture (Ottawa), Carnegie Museum, Catholic University of America, Chicago Natural History Museum, Clark University, Cornell University — Bailey Hortorium and Wiegand Herbarium, Cranbrook Institute of Science, Dartmouth College, De Pauw University, Harvard University — Gray Herbarium, Illinois State Museum, Iowa State Teachers College, Iowa State University, Miami University (Ohio), Michigan Institute of Technology, Michigan State University, Milwaukee Public Museum, Missouri Botanical Gardens, Montreal Botanical Institute, Morris Arboretum, National Museum of Canada, New York Botanical Garden, New York State Museum, North Dakota State University, Northern Michigan College, Oberlin College, Ohio State University, Philadelphia Academy of Science, Queens University (Hamilton, Ontario), Quetico-Superior Wilderness Research Center, Smith College (Northhampton), Stanford University, U. S. Forest Service, U. S. National Arboretum, U. S. National Museum, University of Alberta, University of California (Berkeley), University of Illinois (Chicago), University of Illinois (Urbana), University of Indiana, University of Iowa, University of Maine, University of Massachusetts, University of Michigan, University of Minnesota (Duluth), University of Minnesota (Minneapolis), University of Missouri, University of Nebraska, University of Notre Dame, University of Pennsylvania, University of Toronto, University of Vermont, University of Western Ontario, University of West Virginia, University of Wisconsin (Madison), University of Wisconsin (Milwaukee), University of Wyoming, Wayne State University, Wellesley College, Western Michigan University, and Yale University.

(quaking and bigtooth), red oaks (northern red, black, and northern pin), red pine, white pine, and black spruce (the last primarily in northeastern Minnesota).

The natural distribution of jack pine is outlined on the map. Planting, however, is beginning to extend the range and eventually may blur the outlines of the natural range. Where planting has been extensive enough to develop at least 100 acres per county of established stand, it has appeared in Forest Survey statistics. Stands of this extent beyond the known botanical range are shown by an *E* in the counties involved. Planting within the botanical distribution is not specially designated in most instances although it may eventually increase the commercial range.

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